ABSTRACT

Provided is a method of treating or ameliorating certain fibrotic diseases or other indications in an animal, including a human, comprising administering an effective amount of a compound of the formula I:

$$Y\text{-}Ar^{\oplus} \bullet X^{-} \qquad (I)$$

wherein:

a. Ar is a five or six membered heteroaryl ring having a first ring nitrogen and optionally second or third ring nitrogens, with the remaining ring atoms being carbon, oxygen, or sulfur, provided the first nitrogen of Ar is a quaternary nitrogen and Ar is not thiazolium, oxazolium or imidazolium;

b. Y is substituted on the first ring nitrogen, with the proviso that if Ar is pyrazole, indazole, (1,2,3)-triazole, benzotriazole, or (1,2,4)-triazole, the second ring nitrogen is substituted

c. Y is:

1. a group of the formula $-CH(R^5)-R^6$ [as preferred in one embodiment]

(a) wherein R^5 is hydrogen, alkyl-, cycloalkyl-, alkenyl-, alkynyl-, aminoalkyl-, hydroxy[C_1 to C_6]alkyl, dialkylaminoalkyl-, (N-[C_6 or C_{10}]aryl)(N-alkyl)aminoalkyl-, piperidin-1-ylalkyl-, pyrrolidin-1-ylalkyl, azetidinylalkyl, 4-alkylpiperazin-1-ylalkyl, 4-alkylpiperidin-1-ylalkyl, 4-[C_6 or C_{10}]arylpiperazin-1-ylalkyl, 4-[C_6 or C_{10}]arylpiperidin-1-ylalkyl, azetidin-1-ylalkyl, morpholin-4-ylalkyl, thiomorpholin-4-ylalkyl, piperazin-1-ylalkyl, piperidin-1-ylalkyl, [C_6 or C_{10}]aryl, or independently the same as R^6;

(b) wherein R^6 is

(1) hydrogen, alkyl (which may be substituted by alkoxycarbonyl)-, alkenyl, alkynyl, cyano-, cyanoalkyl-, or Rs, wherein Rs is a [C_6 or C_{10}]aryl or a heterocycle containing 4-10 ring atoms of which 1-3 are heteroatoms selected from the group consisting of oxygen, nitrogen and sulfur; or

(2) a group of the formula $-W-R^7$ [as preferred in one embodiment], wherein R^7 is alkyl, alkoxy, hydroxy, or Rs [as preferred in one embodiment], wherein W is -C(=O)- or $-S(O)_2-$;

(3) a group of the formula $-W-OR^8$ wherein R^8 is hydrogen or alkyl,

(4) a group of the formula -CH(OH)Rs; or

(5) a group of the formula $-W-N(R^9)R^{10}$, wherein

(a) R^9 is hydrogen and R^{10} is an alkyl or cycloalkyl, optionally substituted; or

(b) R^9 is hydrogen or alkyl and R^{10} is Ar^*; or

(c) R^9 is hydrogen or alkyl, R^{10} is a heterocycle containing 4-10 ring atoms of which 1-3 are heteroatoms are selected from the group consisting of oxygen, nitrogen and sulfur; or

(d) R^9 and R^{10} are both alkyl groups; or

(e) R^9 and R^{10} together with N form a heterocycle containing 4-10 ring atoms which can incorporate up to one additional

heteroatom selected from the group of N, O or S in the ring, wherein the heterocycle is optionally substituted; or

(f) R^9 and R^{10} are both hydrogen; or

2. $-NH_2$, and

e. X is a pharmaceutically acceptable anion, which may be absent if the compound provides a neutralizing salt, or

(B) a pharmaceutically acceptable salt of the compound.